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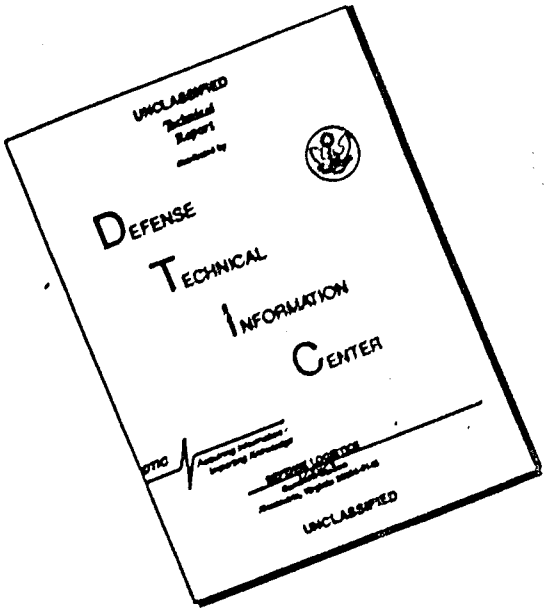

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AD 869033

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (17 Apr 70) FOR OT UT 701111 21 April 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 36th Engineer Battalion, Period Ending 31 January 1970

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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as

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DEPARTMENT OF THE ARMY
HEADQUARTERS 36TH ENGINEER BATTALION (CONST)
APO San Francisco 96357

EGFE-OP 13 February 1970

SUBJECT: Operational Report-Lessons Learned, RCS CSFOR-65 (R2) for Period Ending 31 January 1970 (U)

Commander-in-Chief, United States Army, Pacific, ATTN: GPOP-OT, APO 96588
Commanding General, United States Army, Vietnam, ATTN: AVHGC-OH, APO 96307
Commanding Officer, 20th Engineer Brigade, Vietnam, ATTN: AVBI-OS, APO 96491
Commanding Officer, 34th Engineer Group, Vietnam, ATTN: EGF-OP, APO 96320

1. SECTION I, OPERATIONS - Significant Activities

a. From 1 November thru 31 January, the 36th Engineer Battalion's construction effort was directed toward two major projects. One of these projects was the Lines of Communication project for the restoration of National Highway 4 from My Thuan to Ba Cang in Vinh Long Province and the restoration of Interprovincial Highway LTL-7A from Vinh Long to Ap An Dien in Vinh Long Province. The other major projects were the completion of the upgrade of MACV Advisory Facilities in four provinces in the Central Mekong Delta.

b. During the reporting period 96 percent of the restoration of National Highway 4 was completed. The 24.5 kilometer project required 246,430 cubic yards of subgrade material, 145,503 cubic yards of subbase material which was composed of both sand-cement stabilized and clay-lime stabilized material and fourteen kilometers of base course composed of 82,680 cubic yards of 3" (-) aggregate. The widening of 15.6 kilometers was completed. On the 10.4 kilometers of new alignment 9.8 kilometers of clay-lime-cement base course has been placed using 20,470 cubic yards of clay-lime. Only 600 meters of base course and placing a 4" lift of asphalt pavement remain to complete the project.

c. On 22 December 1969 work began on the restoration of Interprovincial Highway LTL-7A. The project includes the complete reconstruction of six bridges and the upgrading of 31 kilometers of road to Class F MACV Standard. Presently progress is 35% complete on the first bridge (180' length) with both concrete abutments and wing walls complete and the driving of pile for the piers 10% complete. The progress of the earthwork includes 2.3 kilometers/6,240 cubic yards of subgrade; 2.2 kilometers/2,742 cubic yards of subbase; 1.6 kilometers/2,217 cubic yards of 3"(-) rock base and .8 kilometer of double surface treatment completed.

d. MACV Advisory Facilities accounted for the remainder of the construction effort. During the reporting period the battalion completed six sites, with work in progress at two sites.

e. During the period the battalion continued operation of the Vinh Long rock off-loading facility. Monthly off-loading production rates were 20,511 tons in November, 26,387 tons in December and 19,064 tons in January. As of 31 January 1970 a total of 258,502 tons have been off-loaded since the site's inception in January 1969.

f. During the period the battalion received and erected a Barber Greene 848 Asphalt Plant which has a capacity of 80-120 tons of asphaltic concrete per hour. As of 31 January this plant has produced 2,615 tons of asphalt which was placed on QL-4.

g. During the period the Battalion Personnel Section inprocessed 160 personnel as replacements and outprocessed 146 personnel for reassignment or seperation.

2. SECTION I, OPERATIONS - Organization

a. Organic Units

(1) HHC, 36th Engineer Battalion (Const)
(2) A Co, 36th Engineer Battalion (Const)
(3) B Co, 36th Engineer Battalion (Const)
(4) C Co, 36th Engineer Battalion (Const)
(5) D Co, 36th Engineer Battalion (Const)

b. Attached Units - None

3. SECTION II, LESSONS LEARNED - Commander's Observations, Evaluation and Recommendations.

a. Personnel: None

b. Intelligence: None

c. Operations:

(1) Asphalt Plant Operation

(a) Observation: The build up of excess rock around the bins, elevators, and overflow chutes backs up and jams the machinery thus causing malfunctions and plant breakdowns.

(b) Evaluation: Building a ramp under the overflow chutes allows the rock to slide into an area where a scoop loader can clear it away. The ramp is lined with sheet metal and has a slope of 35°. For areas where a scoop loader is too large to clear away the rock a LOC Bobcat, (Melrose Bobcat i.e. 1/3 cy bucket loader) because of its small size, has proven very effective. Sheet metal sides were placed on the bottom of the cold elevator to reduce the amount of rock overflowing the side of the elevator.

(c) Recommendation: Using the above measures allows for a cleaner, more orderly operation of the plant which creates a safer enviorement and allows the machinery to function smoothly.

(2) Pot Hole Patching

(a) Observation: When the day's operation began it was found that occasionally the first truck load of asphaltic concrete was out of specifications, either due to gradation or temperature.

(b) Evaluation: In place of wasting the out of specifications hot mix, it was found that using a crew of three men and the hot mix, an adequate pot hole patching crew could be initiated.

(c) Recommendation: Recommend that the out of specification hot mix be used for small jobs where only a limited amount of material is required.

(3) Soil cement

(a) Observation: Optimum moisture content of clay-lime-cement for compaction varies between 18% and 20%. This moisture content appears much drier than the clay-lime soil at the same percentage moisture.

(b) Evaluation: Repeated tests with the "speedy" moisture tester was made as water was added and indicated the correct moisture. As a result, optimum compaction was achieved.

(c) Recommendation: Avoid adding too much water to clay-lime-cement. At the proper moisture content the clay-lime-cement appears to dry to compact. Optimum compaction will follow, however, if the readings of the "speedy" moisture tester are adhered to.

(4) Discing clay on shoulders

(a) Observation: Clay placed on the road by dragline must be disced to dry to optimum moisture content for placing of Lime. The dozers could work the center of the road but kept getting stuck on shoulders where the dragline had worked.

(b) Evaluation: By removing the front gang of discs the disc harrow will cut a swath that reaches approximately 3 feet to the right of the bull-dozer thus eliminating the requirement for the dozer to travel on the shoulder.

(c) Recommendation: That two disc harrows be utilized, one to dry the center of the road and one with the front section of discs removed to dry the shoulders.

(5) Pile Driving Operations

(a) Observation: The speed of pile-driving operations is reduced to a minimum as a result of the welding speed when the pile-driving rig is utilized to hold the pile in place during the welding.

(b) Evaluation: Experience has indicated that the pile driving operation depends on the speed of the welder to weld the next pile section to the driven pile. The pile-driving rig and operating personnel lost approximately one hour per pile while waiting for the placed pile to be welded.

(c) Recommendation: That the initial pile be driven and the next pile be placed on it for welding. The pile is then partially welded (50% with three beads). Once 50% of the welding is completed the pile-driving rig can then pick up another initial pile and begin driving next to the pile which is being welded. This method of pile-driving allows for both welding and pile-driving operations to continue on a simultaneous basis and increases the effectiveness of the operation.

(6) Wing Wall Construction

(a) Observation: There is a loss of manpower and time by pouring the footers and wing walls for an abutment on an individual basis.

(b) Evaluation: By pouring first the footer, and then the wing wall for each abutment a loss of manpower and time resulted. To alleviate this problem, both footers on one abutment should be poured at the same time. Once the forms are stripped they are then carried to the other abutment where they are placed. At the same time the wing wall forms are being placed on the poured footers and the footer forms are being set up at the other abutment. Two pouring operations can then take place at both abutments; one for the wing walls and one for the footers. Once the curing takes place, two stripping operations can take place simultaneously; one at the wing walls and one at the footers.

(c) Recommendation: That both footers at one abutment and both wing walls at the other abutment be poured at the same time.

(7) Vietnamese drivers of US Army vehicles

(a) Observation: Vietnamese people are short-legged and can not reach the clutch pedals of a 5 ton M51A1's.

(b) Evaluation: In accordance with TM 9-2320-211-10 and TM 9-2320-211-20, the clutch pedal can be moved. However, this movement isn't enough to make up the shortage. It will still cause the driver to ride the clutch pedal.

(c) Recommendation: Removing the clutch pedal and adding another 3 inch wood blocks, would help in maintenance and driver operation.

(8) Rock Off-Loading Facilities

(a) Observation: Rock off-loading with the ramp and scoop loader system has proven to be faster than with the old crane off-load system. There is still much room for improvement as there are several hours per day when the tide is low and the ramp angle is to steep for safe operation. Removal and emplacement of the ramp requires twenty to fifty minutes of time utilizing the scoop loader.

(b) Evaluation: A new ramp has been constructed with an additional five foot length and fastened to the front of the pier via a hinge system. The ramp is raised and lowered in only two or three minutes by utilizing an A-frame, a four part pulley system and a scoop loader to provide pulling power. The new ramp length decreases the ramp slope and the hinged ramps eliminates the majority of the wasted time.

(c) Recommendation: Other sites utilizing the ramp and scoop loader off-loading system should utilize the hinged ramp with A-frame for increasing off-load.

(9) Extracting Clark 290M's

(a) Observation: Clark 290M's have been damaged while extracting them from rice paddies.

(b) Evaluation: In most cases where 290M's becomes stuck so that it can not pull itself, the draw pindle is not accessible. Expedient means of removal sometimes results in damage to the equipment.

(c) Recommendation: It is recommended that a 3/4" wire rope sling be passed through the pintle and securely fastened to the grill. The pintle may then be used by unfastening the sling from the grill and passing it under the blade, thus making the extraction of the equipment possible without damage.

GEOFFREY F. BLUME
MAJ, CE
Commanding

EGF-OP (13 Feb 70) 1st Ind
SUBJECT: Operational Report of 36th Engineer Battalion for Period Ending 31 January 1970, RCS CSFOR-65 (R1)

DA, HEADQUARTERS 34TH ENGINEER GROUP (CONST), APO 96320 20 February 1970

TO: Assistant Chief of Staff for Force Development, Department of the Army Washington, D.C. 20310
Commanding Officer, 20th Engineer Brigade, ATTN: AVBI-OS, APO 96491

The ORLL submitted by the 36th Engineer Battalion has been reviewed by this Headquarters and is considered comprehensive and of value for documentation and review of the reporting units activities and experiences.

FOR THE COMMANDER:

IVYL L MYERS
CPT, CE
Adjutant

CF:
CO, 36th Engr Bn

AVBI-OS (13 Feb 70) 2nd Ind
SUBJECT: Operational Report of 36th Engineer Battalion (Construction) for the Period Ending 31 January 1970, RCS CSFOR-65 (R2)

DA, Headquarters, 20th Engineer Brigade, APO 96491 10 MAR 1970

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.

2. Subject report has been reviewed by this headquarters and is considered adequate.

FOR THE COMMANDER:

Kenneth J. Koeblen 1LT CE

For H. V. GOSMEILER III
1LT, CE
Assistant Adjutant

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CO, 34th Engr Gp

AVHGC-DST (13 Feb 70) 3d Ind
SUBJECT: Operational Report - Lessons Learned (RCS CSFOR R1) for Quarterly Period Ending 31 January 1970

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1970 from Headquarters, 36th Engineer Battalion (Const) and concurs with the comments of indorsing headquarters.

2. Comments follow:

a. Reference item concerning "Pot Hole Patching", page 3, paragraph (2); nonconcur. The first load of asphaltic concrete is usually too cool and contains insufficient fines to meet specifications. Below 225° F asphaltic concrete cannot be adequately compacted, especially with hand tools. Asphaltic concrete deficient in fines is susceptible to ravelling, especially when inadequately compacted. A good patch does not require continuous maintenance. The use of out-of-specification material will require continuous maintenance. Instead of using out-of-specification asphaltic concrete for patching, recommend its use around the base camp for walkways, ditch lining, parking areas, etc.

b. Reference item concerning " Vietnamese Drivers of US Army Vehicles", page 4, paragraph c7; concur. Unit commanders have the authority to apply temporary modifications to their equipment provided that the equipment can be returned to its original configuration. The attachment of wooden blocks to the clutch pedal to assist Vietnamese operators is within the scope of this authority. No further action is required by this or higher headquarters.

c. Reference item concerning "Extracting Clark 290M's", page 5, paragraph c9; concur. The use of a sling to provide easy access to the draw pintle will assist in the recovery of deeply mired equipment. Care should be taken to insure that the sling material is capable of withstanding the heavy strains that can be expected during recovery operation. No further action is required by this or higher headquarters.

FOR THE COMMANDER:

By Turn:
36th Engr Bn
[illegible]

GPOP-DT (13 Feb 70) 4th Ind
SUBJECT: Operational Report of HQ, 36th Engineer Battalion (Const) for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 31 MAR 70

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D.D. Cline
D.D. CLINE
2LT, AGC
Asst AG

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5. AUTHOR(S) *(First name, middle initial, last name)*

CO, 36th Engineer Battalion

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